

**AMENDMENT**

**REMARKS**

Claims 1-3 and 26-28 are pending herein. By this Amendment, Claims 1-3 are amended, and non-elected Claims 9-25 are canceled. No new matter is added by this Amendment. Support for the amendment to Claim 1 is found in the specification at, *inter alia*, paragraph [0007], paragraphs [0020]-[0021], and in the original claims.

Applicants thank Examiner Winkler for stating that SEQ ID NO:1 is free of the prior art and that claims limited to SEQ ID NO:1 would be allowable.

Applicants submitted corrected formal drawings on October 7, 2002. The Examiner is respectfully requested to indicate that the drawings are acceptable.

**I. RESTRICTION REQUIREMENT**

Applicants respectfully maintain that the restriction requirement is improper for the reasons set forth in the Election In Response to Restriction Requirement filed October 7, 2002. Nevertheless to advance prosecution, non-elected Claims 9-25 are canceled, without prejudice or disclaimer. Further, Applicants request rejoinder of process Claims 26-28 under MPEP 821.04. The Examiner stated on page 3 of the Office Action that this request for rejoinder would be considered.

**II. FORMAL MATTERS**

The Examiner acknowledged receipt of the claim for priority and the certified copies of the priority documents as received in the parent application, serial no. 09/333,521. However, the Examiner indicated that the priority was not perfected because a certified English translation had not been provided. A certified English translation is only required when relying on the foreign filing date to overcome a cited reference.

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Thus, it is not necessary to file an English translation of the priority document to be entitled to the foreign filing date.

Regarding the IDS filed July 5, 2001, the relevance of the Fuji et al. reference is discussed on page 1, paragraph [0002] of the instant specification. As discussed in the Amendment filed on February 9, 2001 in parent application serial no. 09/333,521, FR 2,720,068 discloses three proteins which interact with the Nef protein and nucleotides encoding therefor. Though the three proteins interact with the Nef protein, the origin of the three proteins within a T CD<sub>4</sub><sup>+</sup> cell is unknown. Please see page 3, lines 12-20 of FR '068, specifically referring to the phrase “pas encore connu”, which means not heretofore known. Further, the degree of relevance of FR '068 was shown in the European search report filed in the parent application serial no. 09/333,521 with an Information Disclosure Statement on August 25, 2000. Applicants respectfully request the Examiner to indicate that FR '068 has been considered on the record. For the Examiner's convenience, an English abstract of FR '068 is attached to this Amendment.

Claims 1-3 were rejected under 35 U.S.C. 112, first paragraph, as assertedly being non-enabled. This rejection is respectfully traversed.

The Examiner asserted that the specification does not provide means by which one of ordinary skill in the art can ascertain what is a “functionally active homologue” of the Nap protein. The Examiner asserted that the term includes additions, deletions, and substitutions of unlimited size.

The claimed functionally active homologues would be readily ascertainable to and could be practiced by one of ordinary skill in the art in view of paragraphs [0020]-[0021] of the specification. Nevertheless to advance prosecution, Claim 1 is amended to recite: (1) a protein represented by SEQ ID NO:1, or (2) a protein having an amino acid sequence wherein one amino acid residue in the amino acid sequence represented by SEQ

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SEQ ID NO:1 is deleted, added, or substituted, and the protein binds to Nef. One of ordinary skill in the art would be able to make the claimed proteins without undue experimentation. Thus, the requirements of 35 U.S.C. 112, first paragraph, are satisfied. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-3 were rejected under 35 U.S.C. 112, second paragraph, as assertedly being indefinite.

The Examiner asserts that the phrase “functionally active” is indefinite. The Examiner also asserts that the term “having” in Claims 1-3 is a relative term. Claim 1 is amended to clarify the recited proteins, including a protein having an amino acid sequence wherein one amino acid residue in the amino acid sequence represented by SEQ ID NO:1 is deleted, added, or substituted, and the protein binds to Nef. The scope of the pending claims would be reasonably ascertainable to one of ordinary skill in the art when read in light of the specification. Accordingly, the requirements of 35 U.S.C. 112, second paragraph, are satisfied. Reconsideration and withdrawal of the rejection are respectfully requested.

**III. REJECTION OVER LIU ET AL.**

Claims 1-2 were rejected under 35 U.S.C. 102(b) as anticipated by Liu et al. (*Journal of Biological Chemistry*, 1997). This rejection is respectfully traversed.

The Examiner maintains that Liu et al. discloses DNA encoding a 35 kD protein present in CD4+ cells that are able to bind HIV Nef (page 13782, Figure 4b). The Examiner asserted that the methionine at position #1 in the amino acid sequence in the reference protein and the claimed protein represented by SEQ ID NO:1 are identical. The Examiner further maintains that the claimed “functionally active homologues” can have

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an unlimited number of insertions and deletions and therefore the claimed protein is anticipated by Liu et al.

Liu et al. does not disclose: (1) a protein represented by SEQ ID NO:1, or (2) a protein having an amino acid sequence wherein one amino acid residue in the amino acid sequence represented by SEQ ID NO:1 is deleted, added, or substituted, and the protein binds to Nef, as recited in Claim 1. Thus, Claims 1-2 are not anticipated by Liu et al. Reconsideration and withdrawal of the rejection are respectfully requested.

**IV. CONCLUSION**

In light of the foregoing remarks, this application is in condition for allowance, and early passage of this case to issue is respectfully requested. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application.

FUJII et al. - Serial No. 09/899,863

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If there are any discrepancies in the fees, please charge or credit our Deposit Account No. 501032 (Docket No. NZK-128-1).

Respectfully submitted,



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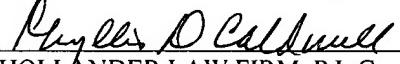
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Enclosure:

Abstract of FR 2,720,068

<b>CERTIFICATE OF MAILING</b>	
I hereby certify that this correspondence dated <u>4/3/03</u> is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on <u>4/3/03</u> .	
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Date: <u>4/3/03</u>	

## Proteins capable of interacting with HIV-1 Nef protein

Patent Number: FR2720068  
Publication date: 1995-11-24  
Inventor(s): BENICHOU SERGE;; CAMONIS JACQUES;; BENAROUS RICHARD  
Applicant(s): INST NAT SANTE RECH MED (FR)  
Requested Patent:  FR2720068  
Application: FR19940006206 19940520  
Priority Number(s): FR19940006206 19940520  
IPC Classification: C07K14/47; C12N15/12; C12N15/81; C12N1/19; G01N33/50;  
EC Classification: C07K14/47, C12N15/10C6

Equivalents:

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### Abstract

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New proteins capable of interacting with HIV-1 Nef protein are selected from proteins which are referred to as A, B and C and have the 42, 47 and 303 amino acid sequences shown in the specification, respectively, and active variants and fragments of these proteins. Also claimed are: (1) nucleic acid sequences coding for proteins A, B and C, selected from (a) the cDNA sequences shown in the specification (126, 141 and 909 nucleotides long, encoding A, B and C respectively), (b) DNA sequences that hybridise with the sequences of (a) or fragments of the sequences of (a) under stringent conditions, (c) DNA sequences derived from the sequences of (a) and (b) as a result of the degeneracy of the genetic code; and the corresp. mRNA and DNA (sic) sequences; (2) an expression vector contg. a nucleic acid sequence as above and the means necessary for its expression; (3) a kit for screening for inhibitors of the interaction between the Nef protein and protein A, B or C, comprising yeast cells cotransformed with an expression vector as above, and an expression vector contg. a gene coding for the Nef protein; (4) host cells or microorganisms transformed with the expression vector of (3); (5) host cells or microorganisms cotransformed as in (4); and (6) anti-HIV agents selected from (a) proteins A, B and C and their Nef-interacting fragments and (b) Nef protein fragments that inhibit the interaction of the Nef protein with cellular proteins contg. protein A, B or C.

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